

SECTION 28-8

OBLIGATORY LIGHTING EQUIPMENT FOR SIDECARS ATTACHED TO MOTORCYCLES (THE REGULATIONS IN THIS SECTION DO NOT APPLY TO VEHICLES COVERED BY SECTION 28-2)

FRONT POSITION LAMP

- 1.** Sidecars to the motorcycles must have a lamp which emits a white light to the front.
- 1.1** The lamps must meet at least one of the following requirements:
 - a) they must be E-marked according to ECE Regulation No. 77, Supplement 2, Correction 1.
 - b) they must be e-marked according to Council Directive 76/758/EEC, as amended by Council Directive 87/354/EEC and Commission Directive 89/516/EEC.
 - c) be approved and marked according to some other standard with equivalent requirements as those mentioned in a) or b) above.
- 1.2** The light from the lamp must be visible within a vertical angle from at least 15° above to at least 15° below the horizontal plane through the centre of the lamp, and within a horizontal angle from at least 45° inwards to at least 80° outwards, measured from the vertical plane through the centre of the lamp parallel to the longitudinal axis of the sidecar.
- 1.3** The lamps must be positioned so that the height from the road surface to the lower edge of the light-emitting surface is 40 cm or more, but the height from the road surface to the upper edge of the light-emitting surface must be less than 150 cm. All measurements to be taken when the sidecar is unladen.
- 1.4** The lamps must be positioned so that the outermost edge of the light-emitting surface is less than 40 cm from the outermost edge of the sidecar.
- 1.5** The lamp must be connected so that it is always on when the position lamp, rear lamp and registration plate lamp on the motorcycle, to which the sidecar is connected are on.

REFLEX REFLECTORS - FRONT

- 2.** Sidecars to motorcycles must have at least one white reflector at the front.
- 2.1** The reflectors must meet at least one of the following requirements:
 - a) They must be E-marked and of Class I according to ECE Regulation No. 3, 02 Series, Supplement 1.
 - b) They must be e-marked and of Class I according to Council Directive 76/757/EEC, possibly as amended by Council Directive 87/354/EEC.
 - c) Be approved and marked according to some other standards with equivalent requirements as a) and b) above.

- 2.2** The reflex from each of the reflectors must be visible within a vertical angle from at least 15° above to at least 15° below the horizontal plane through the centre of the reflector, and within a horizontal angle from at least 30° inwards to at least 30° outwards, measured from the vertical plane through the centre of the reflector parallel to the longitudinal axis of the sidecar.
- 2.3** The reflex reflector(s) must be positioned so that the height from the road surface to the lower edge of the reflecting surface is 40 cm or more, but the height from the road surface to the upper edge of the reflecting surface must be less than 90 cm. All measurements to be taken with the sidecar unladen.
- 2.4** At least one reflex reflector must be positioned so that the outermost edge of the reflecting surface is less than 40 cm from the outermost edge of the sidecar.
- 2.5** The reflex reflector(s) must be fitted in such a way that the light reflecting surface is vertical and at right angles to the longitudinal axis of the sidecar. If it is necessary due to the design of the sidecar, a deviation of $\pm 5^\circ$ is permitted, both in the horizontal as well as the vertical direction.
- 2.6** The reflex reflector(s) must have a simple and regular shape. However, they must not be triangular.

STOP LAMPS

- 3.** Sidecars to motorcycles must have at least one lamp emitting a red light to the rear.
- 3.1** The lamp(s) must meet the requirements in Section 28-6 Number 6.1.
- 3.2** The light from each of the lamps must be visible within a vertical angle from at least 15° above to at least 15° below the horizontal plane through the centre of the lamp, and within a horizontal angle from at least 45° inwards to at least 80° outwards, measured from the vertical plane through the centre of the lamp parallel to the longitudinal axis of the sidecar.
- 3.3** The lamp(s) must be positioned so that height from the road surface to the lower edge of the light-emitting surface is 35 cm or more, but the height from the road surface to the upper edge of the light-emitting surface must be less than 150 cm. All measurements to be taken when the sidecar is unladen.
- 3.4** At least one lamp must be positioned so that the outermost edge of the light-emitting surface is less than 40 cm from the outermost edge of the sidecar.
- 3.5** The lamp(s) must be connected so that it (they) are always on when the position lamp, rear lamp and registration plate lamp on the motorcycle, to which the sidecar is connected are on.

REFLEX REFLECTOR - REAR

- 4.** Sidecars to motorcycles must have at least one red reflector at the rear.
- 4.1** The reflector(s) must meet the requirements in Section 28-6 Number 7.1.
- 4.2** The reflector(s) must in all other respects meet the requirements given in Numbers 2.2 - 2.6.

SECTION 28-9**OPTIONAL LIGHTING EQUIPMENT FOR TWO AND THREE-WHEEL MOTOR VEHICLES
AND MOTORCYCLE SIDECARS (THE REGULATIONS IN THIS SECTION DO NOT APPLY
TO VEHICLES COVERED BY SECTION 28-2)**

1. Two and three-wheel motor vehicles and sidecar for a motorcycle may have direction indicator lamps, hazard warning lamps, driving lamps, auxiliary main beam, curve/fog light, main beam flasher, marker lamp, white reflex reflectors at the front, yellow reflex reflectors on the sides, faintly illuminating or illuminated advertising signs or similar, reversing lamps, fog lamp at the rear and interior light(s) for illumination of instruments and lighting of space used by persons or goods. Parking lamp as mentioned in Council Directive 77/540/EEC may also be permitted.
2. Two and three-wheel motor vehicles having a width not over 100 cm may have either one or two lamps which emit a driving light and a lamp emitting an auxiliary main beam. If two lamps emitting a driving light are used, these must be on at the same time as the dipped beam and the distance between them must be at least 40 cm. The distance between lamps for driving lights and lamp for dipped beam must be more than 10 cm. However, a sidecar to a vehicle may only have one lamp for driving light, one lamp emitting an auxiliary main beam, and one lamp emitting a curve/fog light. If two and three-wheel motor vehicles have one lamp which emits a driving light and one lamp which emits a curve/fog light, the lamps must be so positioned that the distance from the outermost edge of the light emitting surface to the outermost edge of the vehicle is the same on both sides. On the motorcycle sidecar the lamps must be positioned so that the distance from the outermost edge of the light emitting surface to the outermost edge of the sidecar is less than 40 cm. Parking lamp as mentioned in Council Directive 77/540/EEC may also be permitted.
3. The above mentioned lamps and reflex reflectors must in all other respects meet the requirements given for each of these in Section 28-4 Number 5, 6, and 11, and Section 28-5 Numbers 1, 3-7 and 9-11.
4. In addition, a sidecar for a vehicle may have one auxiliary main-beam, one dipped-beam and at least one stop lamp. The dipped-beam and at least one stop lamp must be so positioned that the outer edge of the light-emitting surface is at most 40 cm from the outer edge of the sidecar. These lamps must also fulfill the requirements given for each one of them under Section 28-6 Numbers 1, 2 and 6.
5. Two and three-wheel motor vehicles and sidecar for a vehicle, may have one or two front position (side) lamps emitting white light if the vehicle has a width of not over 100 cm.

If a lamp as mentioned is used, this must meet the requirements given in Numbers 5.1 - 5.6, but if two such lamps are used, these must meet the requirements given in Section 28-6, Number 3.

- 5.1 The light from the lamp must be visible within a vertical angle at least 15° above and at least 15° below the horizontal plane through the centre of the lamp, and within a horizontal angle at least 80° to either side measured from the vertical plane through the centre of the lamp which is parallel to the longitudinal axis of the vehicle.

- 5.2** The light from the lamp must at any given point within the area where the light is visible have an intensity which is less than 60 candelas.

In a forward direction the light intensity from the lamp must be 4 candelas or more and 2 candelas or more for mopeds.

Towards the outer limits of the area within which the light must be visible the intensity may gradually decrease to 0,05 candelas.

- 5.3** The lamp must have a light-emitting surface straight ahead which is at least 30 cm². However, lamps which are E-marked may be approved even if this requirement is not fulfilled.

- 5.4** The lamp must be so positioned that the height from the ground to the lower edge of the light-emitting surface is at least 40 cm, but the height from the ground to the upper edge of the light-emitting surface is at most 150 cm. Measurements to be taken with the vehicle unladen.

- 5.5** The lamp must be so positioned that the distance from the outer edge of the light-emitting surface to the outer edge of the vehicle is equal on either side.

- 5.6** The lamp must be so connected that it is always lit when main-beam, dipped-beam, rear position (side) lamp, registration plate lamp auxiliary main-beam, curve/fog lamp, marker lamp or rear fog lamp are illuminated.

- 6.** Two and three-wheel motor vehicles and sidecars can have direction indicator lamps when the vehicle is open.

- 6.1** These lamps must comply with the requirements given under Section 28-6 Number 4 above. However, the regulations mentioned under Section 28-6 Number 4.6 shall not apply to a vehicle with a width not over 100 cm. For such a vehicle the following shall apply in respect of the position of the direction indicator lamps:

- 6.1.1** The distance between the innermost edges of the light-emitting surface for each pair of indicator lamps in forward direction, must be at least 34 cm. A direction indicator lamp in a forward direction must be so positioned that the minimum distance between the light-emitting surface of the indicator lamp and the main/dipped-beam lamp positioned nearest to it - measured perpendicular to the longitudinal axis of the vehicle - is at least 10 cm.

- 6.1.2** The distance between the innermost edge of the light-emitting surface for each pair of indicator lamps to the rear must be at least 24 cm.

- 7.** Two and three-wheel motor vehicles and sidecar for a vehicle may have a brake lamp if the vehicle has a width of not over 100 cm.

The lamp(s) must meet the requirements given in Section 28-7 Number 5.

SECTION 28-10

LIGHTING EQUIPMENT FOR TRACKED VEHICLES AND TRACKED MOTORCYCLES WITH A WIDTH OVER 130 CM

MAIN BEAM LAMPS

1. Tracked vehicles/tracked motorcycles must have at least two lamps emitting a white or yellow main beam.
- 1.1 The lamps must meet at least one of the following requirements:
 - a) They must be E-marked with the symbol R according to ECE Regulation No. 1, with the symbol SR according to ECE Regulation No. 8, or by the symbol HR according to ECE Regulation No. 5.
 - b) They must be E-marked with the symbol MB according to ECE Regulation No. 57.
 - c) They must be e-marked with the symbol R according to Council Directive 76/761/EEC, as amended by Council Directive 87/354/EEC, and Commission Directive 89/517/EEC.
 - d) They must be approved and marked according to some other standard with equivalent requirements as in a), b) or c) above.
- 1.2 The lamps must be so adjusted that they illuminate the road surface at least 100 m ahead.
- 1.3 The lamps must be connected so that they cannot be illuminated without the front position (side) lamps. rear position (side) lamps and registration plate lamp being switched on at the same time. This requirement, however, does not apply to the main-beam flasher.
- 1.4 When the tracked vehicle or the tracked motorcycle is enclosed, the main-beam must be connected to a tell tale lamp, easily visible from driver's seat, and which shows when the main-beam is illuminated.

DIPPED BEAM LAMPS

2. Tracked vehicles and tracked motorcycles must have two front dipped-beam lamps emitting white or yellow light.
- 2.1 The lamps must meet at least one of the following requirements:
 - a) They must be E-marked with the symbol C according to ECE Regulation No. 1, with the symbol SC according to ECE Regulation No. 5, or with the symbol HC according to ECE Regulation No. 8.
 - b) They must be E-marked with the symbol MB according to ECE Regulation No. 57.

- c) They must be e-marked with the symbol C according to Council Directive 76/761/EEC, as amended by Council Directive 87/354/EEC or Commission Directive 89/517/EEC.
 - d) They must be approved and marked according to some other standards with equivalent requirements as in a), b) and c) above.
- 2.2** The lamps must be so adjusted that they illuminate the road surface at least 40 m ahead.
- 2.3** Lamps must be positioned so that the height from the ground to the lower edge of the light-emitting surface is at least 50 cm, but the height from the ground to the upper edge of the light-emitting surface must be less than 120 cm. Measurements to be taken with the tracked vehicle or tracked motorcycle unladen.
- If the tracked vehicle or tracked motorcycle is fitted with the special equipment as i.e. a snow plough obstructing the obligatory dipped-beam lamps, extra dipped-beam lamps may be fitted at the necessary height.
- 2.4** Lamps must be so positioned on each side so that the outer edge of the light-emitting surface is less than 40 cm from the outer edge of the tracked vehicle or tracked motorcycle, and so that the outer edge of the light-emitting surface does not lie within the outer edge of the light-emitting surface of the main-beam.
- 2.5** The distance between the inner edges of the light-emitting surface of the lamps must be at least 60 cm.
- 2.6** Lamps which are positioned on the tracked vehicle or tracked motorcycle so that their upper edge is more than 120 cm above the ground (See Number 2.3). must be adjusted so that the light 25 m in front of the lamps is less than 0,7 lux at any given point positioned 110 cm or more above the ground.
- 2.7** Lamps must be connected so that they cannot be illuminated without the front position (side) lamps, rear position (side) lamps and registration plate lamp being switched on at the same time.
- If separate lamps are used for main-beam and dipped-beam, the dipped-beam must be connected so that they are illuminated when the main-beam is switched on.
- 2.8** If the tracked vehicle or tracked motorcycle has a main-beam, the dip switch must be so designed and positioned that it can be operated in a safe and easy way.

FRONT POSITION (SIDE) LAMPS

3. Tracked vehicles and tracked motorcycles must have two front position (side) lamps emitting white light.
- 3.1 The lamps must meet at least one of the following requirements:
 - a) They must be E-marked according to ECE Regulation No. 50.
 - b) They must be E-marked with the symbol A according to ECE Regulation No. 7, 01 Series, Supplement 4, Correction 2.
 - c) They must be e-marked with the symbol A according to Council Directive 76/758/EEC as amended by Council Directive 87/354/EEC, Commission Directive 89/516/EEC.
 - d) They must be approved and marked according to some other standard with equivalent requirements as a), b) or c) above.
- 3.2 The light from each of the lamps must be visible within a vertical angle at least 15° above and at least 15° below the horizontal plane through the centre of the lamp, and within a horizontal angle at least 45° inwards and at least 80° outwards measured from the vertical plane through the centre of the lamp which is parallel to the longitudinal axis of the tracked vehicle and tracked motorcycle.
- 3.3 Lamps must be so positioned that the height from the ground to the lower edge of the light-emitting surface is 40 cm or more, but the height from the ground to the upper edge of the light-emitting surface must be less than 150 cm. Measurements to be taken with the tracked vehicle or tracked motorcycle unladen.
- 3.4 Lamps must be so positioned on each side so that the outer edge of the light-emitting surface is less than 40 cm from the outer edge of the tracked vehicle or tracked motorcycle.
- 3.5 Lamps must be connected so that they are always illuminated when the main-beam, dipped-beam rear position (side) lamp, registration plate lamp, auxiliary main-beam, curve/fog lamp, marker lamp, working lamp or rear fog lamp are switched on.

DIRECTION INDICATOR LAMPS

4. Tracked vehicles and tracked motorcycles must have at least two direction indicator lamps at the front and at the rear and/or at least one on either side emitting orange flashing light when the tracked vehicle or tracked motorcycle is enclosed.
- 4.1 The lamps must meet requirements in Section 28-4, Number 5.1.
- 4.2 Direction indicators at the front and on the side may be combined into one lamp if the light is visible within the angles given in Number 4.3.

- 4.3** The light from each of the lamps must be visible within a vertical angle at least 15° above and at least 15° below the horizontal plane through the centre of the lamp.

The light from each of the lamps at the front and rear must be visible within a horizontal angle at least 45° inwards and at least 80° outwards.

The light from each of the lamps on the sides must, in a forward direction of the light, be visible within a horizontal angle at least 10° inwards and at least 80° outwards, and in a rearward direction be visible within a horizontal angle at least 45° inwards and at least 80° outwards.

The horizontal angle to be measured from the vertical plane through the centre of the lamp which is parallel to the longitudinal axis of the tracked vehicle or tracked motorcycle.

- 4.4** The lamps must be positioned so that the height from the ground to the lower edge of the light-emitting surface is at least 35 cm for lamps at the front and rear, and at least 50 cm for side-lamps. The height from the ground to the upper edge of the light-emitting surface must be at least 150 cm. If the design of the tracked vehicle or tracked motorcycle makes this necessary, the height from the ground to the upper edge of the light-emitting surface may, however, be increased to a maximum 190 cm. Measurements to be taken with the tracked vehicle or tracked motorcycle unladen.

- 4.5** Lamps at the front and rear must be so positioned on either side that the outer edge of the light-emitting surface is less than 40 cm from the outer edge of the tracked vehicle or tracked motorcycle.

- 4.6** Direction indicator lamps must be connected to a tell tale lamp and/or audible signal which must be visible/audible from the driver's seat, and operate simultaneously with the direction indicator lamps and show if these are functioning correctly.

- 4.7** The flash frequency for the direction indicator lamps must be 90 ± 30 flashes per minute.

- 4.8** The operating device for the direction indicator lamps must be so that the lamps on the right-hand side operate when it is moved in a clockwise direction or towards the right, and the lamps on the left-hand side operate when it is moved anti-clockwise or towards the left.

REAR POSITION (SIDE) LAMPS

- 5.** Tracked vehicles and tracked motorcycles must have at least two rear position (side) lamps emitting red light.

- 5.1** The lamps must meet at least one of the following requirements:

- a) They must be E-marked with the symbol RD according to ECE Regulation No. 7, 01 Series, Supplement 4, Correction 2.
- b) They must be E-marked with the symbol R according to ECE Regulation No. 50.
- c) They must be e-marked with the symbol RD according to Council Directive 76/758/EEC as amended by Council Directive 87/354/EEC and Commission Directive 89/516/EEC.
- d) They must be approved and marked according to some other standards with equivalent requirements as in a), b) or c) above.

- 5.2** The light from each of the lamps must be visible within a vertical angle at least 15° above and at least 15° below the horizontal plane through the centre of the lamp, and within a horizontal angle at least 45° inwards and at least 80° outwards from the vertical plane through the centre of the lamp which is parallel to the longitudinal axis of the tracked vehicle or tracked motorcycle.
- 5.3** Lamps must be positioned so that the height from the ground to the lower edge of the light-emitting surface is at least 35 cm, but the height from the ground to the upper edge of the light-emitting surface is at most 150 cm. If, however, the design of the tracked vehicle or tracked motorcycle makes this necessary, the height from the ground to the upper edge of the light-emitting surface may be increased to a maximum 190 cm. Measurements to be taken with the tracked vehicle or tracked motorcycle unladen.
- 5.4** At least one lamp must be positioned on each side of the vehicle or motorcycle so that the outer edge of the light-emitting surface is less than 40 cm from the outer edge of the tracked vehicle or tracked motorcycle.
- 5.5** The distance from the rearmost point of the tracked vehicle or tracked motorcycle to the nearest point of the lamp lens, must be less than 100 cm.
- 5.6** The lamps must be so connected that they are illuminated when main-beam (except main-beam flasher), dipped-beam lamps, front position (side) lamps, registration plate lamps, auxiliary main-beam, curve/fog lamps, marker lamps, working lamps or rear fog lamps are switched on.

REFLEX REFLECTORS

- 6.** Tracked vehicles and tracked motorcycles must leave at least two rear red reflex reflectors.
- 6.1** The reflectors must meet at least one of the following requirements:
- a) They must be E-marked and of Class I according to ECE Regulation No. 3.
 - b) They must be e-marked and of Class I according to Council Directive 76/757/EEC, possibly as amended by Council Directive 87/354/EEC.
 - c) They must be approved and marked according to some other standard with equivalent requirements as a) or b) above.
- 6.2** The illumination from each of the reflex reflectors must be visible within a vertical angle at least 15° above and at least 15° below the horizontal plane through the centre of the reflex reflector, and within a horizontal angle at least 30° inwards and at least 30° outwards measured from the vertical plane through the centre of the reflex reflector which is parallel with the longitudinal axis of the tracked vehicle or tracked motorcycle.
- 6.3** The reflex reflectors must be positioned so that the height from the ground to the lower edge of the reflecting surface is 35 cm or more, but the height from the ground to the upper edge of the reflecting surface must be less than 90 cm. The measurements to be taken when the tracked vehicle or tracked motorcycle is unladen.
- 6.4** At least one reflex reflector must be positioned on each side in such a way that the outer edge of the reflecting surface is less than 40 cm from the outer edge of the tracked vehicle or tracked motorcycle.

- 6.5 The reflex reflectors must be fitted so that the light reflecting surfaces stands vertically and perpendicular to the longitudinal axis of the tracked vehicle or tracked motorcycle. When it is necessary due to the design of the tracked vehicle or tracked motorcycle, however, a deviation of 5° horizontally as well as vertically, is permitted.
- 6.6 The reflex reflectors must have a regular and basic form. They must not be triangular.

REAR REGISTRATION PLATE LAMPS

7. Tracked vehicles and tracked motorcycles must have rear registration plate lamps emitting white light.

The regulations in this Number do not apply to tracked motorcycles having a registration plate on the front.

The lamp(s) must meet the requirements in Section 28-6 Number 8.

FLASHING BLUE LAMPS

8. Tracked vehicles and tracked motorcycles used as an emergency vehicle, See Section 11 of the Road Traffic Act, must have at least one warning lamp emitting a flashing, blue light in a forward direction.
- 8.1 The lamp(s) must meet the requirements in Section 28-6 Number 9.

SECTION 28-11

LIGHTING EQUIPMENT FOR TRACKED VEHICLES AND TRACKED MOTORCYCLES WITH A WIDTH NOT OVER 130 CM

MAIN BEAM LAMPS

1. Tracked vehicles and tracked motorcycles must have at least one front main-beam lamp emitting white or yellow light.
- 1.1 The lamps must meet at least one of the following requirements:
- a) They must be E-marked with the symbol R, SR or HR according to ECE Regulation No. 57.
 - b) They must be E-marked with the symbol MB according to ECE Regulation No. 57.
 - c) They must be approved and marked according to some other standard with equivalent requirements as a) or b) above.
- 1.2 The lamps must be so adjusted that they illuminate the road at least 100 m ahead.
- 1.3 The lamp(s) must be so connected that it (they) cannot be illuminated without the front position (side) lamps (in the case of those tracked vehicles or tracked motorcycles having such lamps). rear position (side) lamps and registration plate lamps being switched on at the same time. However, this requirement does not apply to the use of main-beam flasher.
- 1.4 When the tracked vehicle or tracked motorcycle is enclosed, the main-beam must be connected to a tell tale lamp, easily visible from the driver's seat, showing when the main-beam is illuminated.

DIPPED BEAM LAMPS

2. Tracked vehicles and tracked motorcycles must have one or two dipped-beam lamps emitting white or yellow light.

If two lamps are used, the regulations in Section 28-9, Number 2 must be met.

- 2.1 The lamps must meet at least one of the following requirements:

- a) They must be E-marked with the symbol C according to ECE Regulation No. 1/2/5/8/20/37, Series 01/03/02/04/02/03, Supplement 3/-/2/4/8/9, Correction 1/1-/-/2, with the symbol SC according to ECE Regulation No. 5 or with the symbol HC according to ECE Regulation No. 8.
- b) They must be E-marked with the symbol MB according to ECE Regulation No. 57.
- c) They must be e-marked with the symbol C according to Council Directive 76/761/EEC, as amended by Council Directive 87/354/EEC, and Commission Directive 89/517/EEC.
- d) They must be approved and marked according to some other standard with equivalent requirements as a), b) or c) above.

- 2.2 Lamps must be so adjusted that they illuminate the road at least 40 m ahead. For mopeds the requirement is 20 m.

- 2.3 The lamp must be positioned so that the height from the ground to the lower edge of the light-emitting surface is at least 50 cm. but the height from the ground to the upper edge of the light-emitting surface must be less than 120 cm. Measurements to be taken with the tracked vehicle or tracked motorcycle unladen.

- 2.4 The lamp must be positioned so that the distance from the outer edge of the light-emitting surface to the outer edge of the tracked vehicle or tracked motorcycle is equal on both sides.

- 2.5 The lamp must be so connected that it cannot be on without the parking lamp (if the tracked vehicle or tracked motorcycle has such a lamp) and the rear lamp being on at the same time.

- 2.6 The dipped-beam must be designed and positioned so that it can be easily and safely operated without the driver having to let go of the steering device.

DIRECTION INDICATOR LAMPS

3. Tracked vehicles and tracked motorcycles must have at least two direction indicator lamps at the front, and at least two at the rear and/or at least one on each side emitting orange, flashing light when the tracked vehicle or tracked motorcycle is enclosed.

- 3.1 The lamps must meet the requirements given under Section 28-10 Number 4.

REAR POSITION (SIDE) LAMPS

4. Tracked vehicles and tracked motorcycles must have at least one rear position (side) lamp emitting red light.

If only one lamp is used, the requirements in Numbers 4.1 - 4.6 must be met. If there are two lamps or more, the requirements in Section 28-10 Number 5 must be met.

- 4.1 The light from the lamp must be visible within a vertical angle at least 15° above and at least 15° below the horizontal plane through the centre of the lamp, and within a horizontal angle of at least 80° measured from the vertical plane through the centre of the lamp which is parallel to the longitudinal axis of the tracked vehicle or tracked motorcycle.

- 4.2 The light from the lamp must, at any given point within the area where the light is visible, have an intensity of less than 12 candelas.

In a rearwards direction of the light the intensity must be 1 candela or more. The requirement for mopeds is 0,5 candela.

Towards the outer limits of the area within which the light must be visible (See Number 5.1), the intensity may gradually be reduced to 0,05 candela.

- 4.3 The lamp must have a rearward facing light-emitting surface of 30 cm² or more. Lamps which are E-marked may, however, be approved even if this requirement for the area has not been met.

- 4.4 The lamp must be positioned so that the height from the ground to the lower edge of the light-emitting surface is at least 35 cm, but the height from the ground to the upper edge of the light-emitting surface is at most 150 cm. Measurements to be taken with the tracked vehicle or tracked motorcycle unladen.

- 4.5 The lamp must be positioned so that the distance from the outer edge of the light-emitting surface to the outer edge of the tracked vehicle or tracked motorcycle is equal on both sides.

- 4.6 The lamp must be connected so that it is always illuminated when main-beam (except when using the main-beam flasher), dipped-beam, front position (side) lamps (in the case of tracked vehicles or tracked motorcycles having such lamps), registration plate lamps auxiliary main-beam, curve/fog lamps, marker lamps, working lamps and rear fog lamps are switched on.

REFLEX REFLECTORS

5. Tracked vehicles and tracked motorcycles must have at least one rear red reflex reflector which:

- 5.1 The reflex reflectors must meet at least one of the following requirements:

- a) They must be E-marked and of Class I according to ECE Regulation No. 3.
- b) They must be e-marked and of Class I according to Council Directive 76/757/EEC, possibly as amended by Council Directive 87/354/EEC.
- c) They must be approved and marked according to some other standard with equivalent requirements as a) or b) above.

If one reflector is used, the requirements in Numbers 5.2-5.6 must be met. If two or more reflectors are used, the requirements in Section 28-10, Number 6, must be met.

- 5.2 The illumination from the reflex reflector must be visible within a vertical angle at least 15° above and at least 15° below the horizontal plane through the centre of the reflex reflector, and within a horizontal angle at least 30° to either side, measured from the vertical plane through the centre of the reflex reflector which is parallel to the longitudinal axis of the tracked vehicle or tracked motorcycle.
- 5.3 The reflex reflector must be positioned so that the height from the ground to the lower edge of the reflecting surface is 35 cm or more, but the height from the ground to the upper edge of the reflecting surface must be less than 90 cm. Measurements to be taken with the tracked vehicle or tracked motorcycle unladen.
- 5.4 The reflex reflector must be positioned so that the distance from the outer edge of the reflecting surface to the tracked vehicle or tracked motorcycle is the same on either side.
- 5.5 The reflex reflector must be fitted so that the light reflecting surface is vertical and perpendicular to the longitudinal axis of the tracked vehicle or tracked motorcycle. If necessary, due to the design of the tracked vehicle or tracked motorcycle, however, a deviation of $\pm 5^\circ$ is permitted in a horizontal as well as vertical direction.
- 5.6 The reflex reflector must have a basic and regular shape. However, it must not be triangular.

REAR REGISTRATION PLATE LAMPS

- 6. Tracked vehicles and tracked motorcycles shall have a registration plate lamps emitting white light.

The regulations in this paragraph do not apply to tracked motorcycles with a registration plate on the front.
- 6.1 The lamps must meet the requirements mentioned under Section 28-6 Number 8.

FLASHING BLUE LAMPS

- 7. Tracked vehicles and tracked motorcycles used as emergency vehicles, see Section 11 of the Road Traffic Act, must have at least one warning lamp emitting a flashing blue light in a forward direction.
- 7.1 The lamp(s) must meet the requirements mentioned in Section 28-6 Number 9.

SECTION 28-12**OPTIONAL LIGHTING EQUIPMENT FOR TRACKED VEHICLES AND TRACKED MOTORCYCLES**

1. Tracked vehicle and tracked motorcycle may have hazard warning lamps, driving lamps, auxiliary main-beam, curve/fog lamps, lamps(s) at the front to warn that the tracked vehicle or tracked motorcycle is towing a trailer or trailer equipment, main beam flasher, marker lamps, white reflex reflectors at the front, yellow reflex reflectors on the sides, faintly lit or illuminated advertising signs etc., working lamps, reversing lamps rear fog lamp and interior lamp(s), for illumination of instruments and passenger goods compartment. Parking lamps as mentioned in Council Directive 77/540/EEC may also be permitted.
2. Tracked vehicles and tracked motorcycles with a width of not over 100 cm may, however, have only one lamp emitting auxiliary main beam. and a lamp emitting a curve/fog light. On tracked vehicles and tracked motorcycles, a lamp emitting a curve/fog light must be so positioned that the distance from the outer edge of the light emitting surface to the outer edge of the tracked vehicle and tracked motorcycle is the same on both sides. They may have either one or two lamps emitting a driving light, if two lamps emitting a driving light are used, these must be on at the same time as the dipped beam is on, and the distance between them must be at least 40 cm. The distance from lamps for driving light to a lamp for dipped beam must be more than 10 cm.
3. In other respects the above mentioned lamps and reflectors must meet the requirements laid down for each of these in Section 28-4, Number 6, and Section 28-5.
4. A tracked vehicle and tracked motorcycle which is open may also have indicator lamps. These lamps must meet the requirements given in Section 28-11 Number 3.

FRONT POSITION (SIDE) LAMPS

5. One or two front position (side) lamps emitting white light when the width of the tracked vehicle or tracked motorcycle is not over 100 cm.

If one lamp as mentioned is used, this must meet the requirements given in Numbers 5.1 -5.6, but if two such lamps are used, these must meet the requirements given in Section 28-10 Number 3.

- 5.1 The lamps must meet at least one of the following requirements:
 - a) They must be E-marked according to ECE Regulation No. 50.
 - b) They must E-marked with the symbol A according to ECE Regulation No. 7, 01 Series, Supplement 4, Correction 1.
 - c) They must be e-marked with symbol A according to Council Directive 76/758/EEC, as amended by Council Directive 87/354/EEC and Commission Directive 89/516/EEC.
 - d) They must be approved and marked according to some other standard with equivalent requirements as in a), b) or c) above.

- 5.2 The light from the lamp must be visible within a vertical angle at least 15° above and at least 15° below the horizontal plane through the centre of the lamp, and within a horizontal angle of at least 80° to either side measured from the vertical plane through the centre of the lamp which is parallel to the longitudinal axis of the tracked vehicle or tracked motorcycle.
- 5.3 The lamp must be positioned so that the height from the ground to the lower edge of the light-emitting surface is at least 40 cm, but the height from the ground to the upper edge of the light-emitting surface is at most 150 cm. Measurements to be taken with the tracked vehicle or tracked motorcycle unladen.
- 5.4 The lamp must be positioned so that the distance from the outer edge of the light-emitting surface to the outer edge of the tracked vehicle or tracked motorcycle is the same on both sides.
- 5.5 The lamp must be connected in such always that it is always illuminated when the main-beam, dipped-beam, rear position (side) lamp, registration plate lamp, auxiliary main-beam, curve fog lamp, marker lamp, working lamp or rear fog lamps are switched on.

STOP LAMPS

6. Tracked vehicles and tracked motorcycles may have one or more stop lamps emitting red light, and which are illuminated immediately when the service brake is applied.

If one such lamp is being used, it must meet the requirements under Number 6.1 - 6.9 but if two or more such lamps are being used, they must meet the requirements under Number 6.10 - 6.17.

The lamps must meet the requirements given under Section 28-3 Number 8.1.

- 6.1 If one lamp is used the light from the lamp must be visible within a vertical angle from at least 15° above to at least 15° below the horizontal plane through the centre of the lamp, and within a horizontal angle from at least 45° to either side, measured from the vertical plane through the centre of the lamp parallel with the longitudinal axis of the tracked vehicle or tracked motorcycle.
- 6.2 If two lamps are used, the light from each of the lamps must be visible within a vertical angle from at least 15° to at least 15° below the horizontal plane through the centre of the lamps, and within a horizontal angle from at least 45° inwards to at least 45° outwards, measured from the vertical plane through the centre of the lamps parallel to the longitudinal axis of the tracked vehicle or tracked motorcycle.
- 6.3 The lamp must be so positioned that the height from the ground to the lower edge of the light-emitting surface is at least 35 cm, but the height from the ground to the upper edge of the light-emitting surface is at most 150 cm. If the design of the tracked vehicle or tracked motorcycle makes this necessary, however, the distance from the ground to the upper edge of the light-emitting surface may be increased to maximum 190 cm. Measurements to be taken with the tracked vehicle or tracked motorcycle unladen.

SECTION 28-13

LIGHTING EQUIPMENT FOR TRACTORS AND MOTORISED EQUIPMENT WITH A DESIGNED SPEED OVER 30 KM/H

MAIN BEAM LAMPS

1. Tractors and motorised equipment must have at least two front main-beam lamps emitting white or yellow light.
- 1.1 The lamps must meet at least one of the following requirements:
 - a) They must be E-marked with symbol R according to ECE Regulation No's. 1/2/5/8/20/37, Series 01/03/02/04/02/03, Supplement 3/-/2/4/3/9, Correction 1/1/-/-/2, SR according to ECE Regulation No. 8 or HR according to ECE Regulation No. 5.
 - b) They must be e-marked with symbol R according to Council Directive 76/761/EEC, as amended by Council Directive 87/354/EEC and Commission Directive 89/517/EEC.
 - c) They must be approved and marked according to some other standard with equivalent requirements as mentioned in a) or b) above.
- 1.2 The lamps must be so adjusted that they illuminate the road at least 100 m ahead.
- 1.3 The lamps must be so connected that they cannot be illuminated without the front position (side) lamps, rear position (side) lamps and registration plate lamps being switched on at the same time. However, this requirement does not apply to main-beam flasher.
- 1.4 The main-beam must be connected to a tell tale lamp visible from the driver's seat, showing when the main-beam is illuminated.

DIPPED BEAM LAMPS

2. Tractors and motorised equipment must have two front dipped-beam lamps emitting white or yellow light.
- 2.1 The lamps must meet at least one of the following requirements:
 - a) They must be E-marked with symbol C according to ECE Regulation No's. 1/2/5/8/20/37, Series 01/03/02/04/02/03, Supplement 3/-/2/4/3/9, Correction 1/1/-/-/2, SC according to ECE Regulation No. 8 or HC according to ECE Regulation No. 5.
 - b) They must be e-marked with symbol C according to Council Directive 76/761/EEC, as amended by Council Directive 87/354/EEC or Commission Directive 89/517/EEC.
 - c) They must be approved and marked according to some other standard with equivalent requirements as mentioned in a) or b) above.
- 2.2 The lamps must be so adjusted that they illuminate the road at least 40 m ahead.

- 2.3 The lamps must be so positioned that the height from the ground to the lower edge of the light-emitting surface is at least 50 cm, but the height from the ground to the upper edge of the light-emitting surface must be less than 150 cm. Measurements to be taken when the tractor or the motorised equipment is unladen.

If the tractor or the motorised equipment is fitted with special equipment, i.e. snow-plough obstructing the obligatory dipped-beam lamps extra dipped-beams lamps may be fitted at the necessary height.

- 2.4 The lamps must be positioned on either side so that the outer edge of the light-emitting surface is less than 40 cm from the outer edge of the tractor or the motorised equipment and so that the outer edge of the light-emitting surface does not lie inside the outer edge of the light-emitting surface of the main-beam. However, tractor or motorised equipment with a design speed of not over 50 km/h may meet the requirement in Section 28-14 Number 1.

- 2.5 The distance between the inner edges of the light-emitting surfaces of the lamps must be at least 60 cm. However, this requirement does not apply to tractors or motorised equipment with a design speed of not over 50 km/h.

- 2.6 Lamps positioned in such a way on a tractor or motorised equipment that their upper edge is more than 120 cm above the road (See Number 2.3, second paragraph), must be so adjusted that the illumination 25 m ahead of the lamps is less than 0,7 lux at any point situated 110 cm or more above the road surface.

- 2.7 Lamps must be connected so that they cannot be illuminated without the front position (side) lamps, rear position (side) lamps and registration plate lamps being switched on at the same time.

If separate lamps are being used for main-beam and dipped-beam, the dipped lamp must be connected so they are also illuminated when the main-beam is switched on.

- 2.8 The dipped-beam switch must be so designed and positioned that it can be easily and safely operated.

FRONT POSITION (SIDE) LAMPS

3. Tractors and motorised equipment shall have two front position (side) lamps emitting white light.

- 3.1 The lamps must meet at least one of the following requirements:

- a) They must be E-marked with symbol A according to ECE Regulation No. 7, 01 Series, Supplement 4, Correction 2.
- b) They must be e-marked with symbol A according to Council Directive 76/758/EEC, as amended by Council Directive 87/354/EEC and Commission Directive 89/516/EEC.
- c) They must be approved and marked according to some other standard with equivalent requirements in a) or b) above.

- 3.2** The light from each of the lamps must be visible within a vertical angle at least 15° above and at least 15° below the horizontal plane through the centre of the lamp, and within a horizontal angle at least 45° inwards and at least 80° outwards measured from the vertical plane through the centre of the lamp which is parallel to the longitudinal axis of the tractor or motorised equipment. However a tractor or motorised equipment with the design speed of not over 50 km/h may meet the requirements in Section 28-14 Number 2.
- 3.3** Lamps must be positioned so that the height from the road to the lower edge of the light-emitting surface is 40 cm or more, but the height from the road to the upper edge of the light-emitting surface should be less than 190 cm. Measurements to be taken with the tractor or motorised equipment unladen.
- 3.4** Lamps must be so positioned on either side that the outer edge of the light-emitting surface is less than 40 cm from the outer edge of the tractor or motorised equipment.
- 3.5** Lamps must be connected so that they are always illuminated when the main-beam, dipped-beam, rear position (side) lamp, registration plate lamp, auxiliary main-beam, curve/fog lamp, marker lamp, working lamp or rear fog lamps are switched on.

DIRECTION INDICATOR LAMPS

- 4.** Tractors and motorised equipment shall have at least two direction indicator lamps at the front, at least two at the rear and at least one on either side emitting orange light.
- 4.1** The indicator lamps at the front and on the side may be combined into one lamp if the light is visible within the angles given in Number 4.3.
- 4.2** The lamps must meet the requirements in Section 28-4 Number 5.1.
- 4.3** The light from each of the lamps must be visible within a vertical angle at least 15° above and at least 15° below the horizontal plane through the centre of the lamp.

The light from each of the lamps in front and at the rear must be visible within a horizontal angle at least in 45° inwards and at least 80° outwards, and the light from each of the lamps on the sides must in the rearward direction of the lamps and out from the tractor or the motorised equipment be visible within a horizontal angle from not over 5° to at least 60°. However, tractor or motorised equipment with a design speed of not over 50 km/h may meet requirements in Section 28-14 Number 3.2. The horizontal angle to be measured from the vertical plane through the centre of the lamps which is parallel with the longitudinal axis of the tractor or the motorised equipment.

- 4.4** The lamps must be so positioned that the height from the road to the lower edge of the light-emitting surface is 40 cm or more for lamps at the front and at the rear, and 50 cm or more for side lamps. The height from the ground to the upper edge of the light-emitting surface must be less than 150 cm. When the design of the tractor or the motorised equipment or the equipment being used in connection with this makes it necessary, the height however from the road to the upper edge of the light-emitting surface may be increased to a maximum of 250 cm. Measurements to be taken with the tractor or the equipment unladen.

The distance from the forward limit of the tractor or motorised equipment to the nearest part of the light-emitting surface of the side lamps, must be less than 1/3 of the total length of the vehicle.

- 4.5** Front and rear lamps must be so positioned on either side that the other edge of the light-emitting surface is less than 40 cm from the outer edge of the tractor or motorised equipment.

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- 4.6 Direction indicator lamps must be connected to a tell tale lamp and/or sound signal which must be easily visible and, or audible from the driver's seat and operate simultaneously with the direction indicator lamps and show if these function correctly.
- 4.7 The flash frequency for direction indicator lamps must be 90 ± 30 flashes per minute.
- 4.8 The operating device for the direction indicator lamps must be such that the lamps on the right-hand side operate when it is being moved clockwise or towards the right, and the lamps on the left-hand side operate when it is moved anti-clockwise or towards the left.

REAR POSITION (SIDE) LAMPS

- 5. Tractors and motorised equipment shall have at least two rear position (side) lamps emitting red light.
- 5.1 The lamps must meet the requirements in Section 28-4, Number 7.
- 5.2 The light from each of the lamps must be visible within a vertical angle at least 15° above and at least 15° below the horizontal plane through the centre of the lamp, and within a horizontal angle at least 45° inwards to at least 80° outwards, measured from the vertical plane through the centre of the lamp which is parallel to the longitudinal axis of the tractor or motorised equipment.
- 5.3 The lamps must be positioned so that the height from the ground to the lower edge of the light-emitting surface is at least 35 cm, but the height from the ground to the upper edge of the light-emitting surface must be less than 190 cm. When it is necessary, due to the construction of the tractor or the motorised equipment being used with this, the height however from the ground may be increased to maximum 250 cm. Measurements to be taken when the tractor or the motorised equipment is unladen.
- 5.4 At least one lamp must be positioned on each side so that the outer edge of the light-emitting surface is less than 40 cm from the outer edge of the tractor or the motorised equipment.
- 5.5 The distance from the rearmost point of the tractor or motorised equipment to the nearest part of the lamp lens must be less than 100 cm.
- 5.6 The lamps must be so connected that they are always illuminated when the main-beam (except main-beam flasher) dipped-beam, front position (side) lamps, registration plate lamp, auxiliary main-beam, curve/fog lamp, marker lamp, working lamp or rear fog lamps are switched on.

STOP LAMPS

- 6. Tractors and motorised equipment must have at least two stop lamps at the rear emitting red light which are illuminated immediately the service brake is operated.
- 6.1 The lamps must meet requirements in Section 28-4 Number 8.
- 6.2 The light from each of the lamps must be visible within a vertical angle at least 15° above and at least 15° below the horizontal plane through the centre of the lamp, and within a horizontal angle at least 45° inwards and at least 45° outwards, measured from the vertical plane through the centre of the lamp which is parallel with the longitudinal axis of the tractor or motorised equipment.

- 6.3 The lamps must be positioned so that the height from the ground to the lower edge of the light-emitting surface is at least 35 cm, but the height from the ground to the upper edge of the light-emitting surface must be less than 190 cm. When it is necessary, due to the construction of the tractor or the motorised equipment, or the equipment being used with this, the height however from the ground to the upper edge of the light-emitting surface may be increased to maximum 250 cm. Measurements to be taken when the tractor or the motorised equipment is unladen.

REFLEX REFLECTORS

7. Tractors and motorised equipment must have at least two rear red reflex reflectors which:
- 7.1 The reflex reflectors must meet the requirements in Section 28-4 Number 9.
- 7.2 Reflection from each of the reflectors must be visible within a vertical angle from at least 15° above to at least 15° below the horizontal plane through the centre of the reflex reflector, and within a horizontal angle from at least 30° inwards to at least 30° outwards, measured from the vertical plane through the centre of the reflex reflector parallel to the longitudinal axis of the tractor or motorised equipment.
- 7.3 The reflex reflectors must be so positioned that the height from the road to the lower edge of the reflecting surface is 35 cm or more, but the height from the road to the upper edge of the reflecting surface must be less than 90 cm. The measurements to be taken when the tractor or the motorised equipment is unladen.
- 7.4 At least one reflex reflector must be positioned on each side so that the outer edge of the reflecting surface is less than 40 cm from the outer edge of the tractor or the motorised equipment.
- 7.5 The reflex reflectors must be so fitted that the light-reflecting surface is vertical and perpendicular to the longitudinal axis of the tractor or the motorised equipment. When it is necessary due to the construction of the tractor or the motorised equipment, a deviation is however permitted of 5° in a horizontal as well as a vertical direction.
- 7.6 The reflex reflectors must have a basic and regular shape. They must not be triangular.

REAR REGISTRATION PLATE LAMPS

8. Tractors and motorised equipment must have rear registration plate lamps emitting white light when the tractor or the motorised equipment is registered.
- 8.1 The lamps must meet the requirements in Section 28-4, Number 10.

SECTION 28-14

**OBLIGATORY LIGHTING EQUIPMENT FOR TRACTORS AND MOTORISED EQUIPMENT
WITH A DESIGNED SPEED OVER 10 KM/H, BUT NOT OVER 30 KM/H**

DIPPED BEAM LAMPS

- 1.** Tractors and motorised equipment must have two front dipped-beam lamps emitting white or yellow light.

Motorised vehicles designed to be driven by a pedestrian must, when it is connected to a trailer or trailer equipment, have one or two lamps as mentioned.

- 1.1** The lamps must meet at least one of the following requirements:

- a) The must be E-marked with symbol C according to ECE Regulation No. 1, SC according to ECE Regulation No. 5, or HC according to ECE Regulation No. 8.
- b) They must be e-marked according to Council Directive 79/532/EEC, possibly as amended by Council Directive 82/890/EEC or Directive 97/54/EC of the European Parliament and of the Council.
- c) They must be approved and marked according to some other standard with equivalent requirements as in a) or b) above.

- 1.2** The lamps must be so adjusted that they illuminate the road at least 30 m ahead.

- 1.3** The lamps must be so positioned that the height from the ground to the lower edge of the light-emitting surface is at least 50 cm, but the height from the ground to the upper edge of the light-emitting surface must be less than 150 cm. Measurements to be taken when the tractor or the motorised equipment is unladen.

If the tractor or the motorised equipment is fitted with special equipment i.e. snow plough obstructing the obligatory dipped-beam, additional dipped-beam lamps may be fitted at the necessary height.

- 1.4** Lamps which are so positioned on the tractor or the motorised equipment that their upper edge is more than 120 cm above the ground (See Number 1.3) must be adjusted so that the light 25 m in front of the lamp is less than 0,7 lux at any point positioned 110 cm or more above the road.

- 1.5** Lamps must be connected so that they cannot be on without the front position (side) lamps, rear position (side) lamps and registration plate lamps being switched on at that same time.

If separate lamps are used for main-beam and dipped-beam the dipped-beams must be connected so they are illuminated when the main-beam is switched on.

- 1.6** The dip switch must be so designed and positioned that it can be easily and safely operated if the tractor or motorised equipment has a main-beam lamp.

FRONT POSITION (SIDE) LAMPS

2. Tractors and motorised equipment must have two front position (side) lamps emitting white light.
- 2.1 The lamps must meet requirements in Section 28-13, Number 3.1.
- 2.2 The light from each of the lamps must be visible within a vertical angle at least 15° above and at least 15° below the horizontal plane through the centre of the lamps, and within a horizontal angle at least 10° inwards and at least 80° outwards measured from the vertical plane through the centre of the lamp which is parallel with the longitudinal axis of the tractor or motorised equipment.
- 2.3 The lamps must be positioned so that the height from the ground to the lower edge of the light-emitting surface is at least 50 cm, but the height from the ground to the upper edge of the light-emitting surface must be less than 190 cm. When it is necessary, due to the construction of the tractor or the motorised equipment, or the equipment being used with this, the height from the ground to the upper edge of the light-emitting surface may be increased to maximum 250 cm. Measurements to be taken when the tractor or the motorised equipment is unladen.
- 2.4 Lamps must be so positioned on each side so that the outer edge of the light-emitting surface is less than 40 cm from the outer edge of the tractor or motorised equipment.
- 2.5 The lamps must be so connected that they are always illuminated when the main-beam, dipped-beam, rear position (side) lamps, registration plate lamps, auxiliary main-beam, curve/fog lamp, marker lamp, working lamp or rear fog lamps are switched on.

DIRECTION INDICATOR LAMPS

3. Tractors and motorised equipment must have at least two direction indicator lamps at the front, and at least two at the rear and/or at least one on either side emitting orange flashing light.
- 3.1 The lamps must meet requirements in Section 28-4 Number 5.1.

When the direction indicator lamps at the front and rear are combined into one lamp fitted on the side of the tractor or the motorised equipment, the light to the front and to the rear must be visible within the angles given in Number 3.2.

- 3.2 The light from each of the lamps must be visible within a vertical angle at least 15° above and at least 15° below the horizontal plane through the centre of the lamp.

The light from each of the lamps to the front and at the rear must be visible within a horizontal angle at least 45° inwards and at least 80° outwards.

The light from each of the lamps on the sides must in a forward direction be visible within a horizontal angle at least 10° inwards and at least 80° outwards, and in a rearwards direction be visible within a horizontal angle from at least 45° inwards to at least 80° outwards.

The horizontal angle to be measured from the vertical plane through the centre of the lamp which is parallel with the longitudinal axis of the tractor or motorised equipment.

- 3.3** The lamps must be so positioned that the height from the ground to the lower edge of the light-emitting surface is 50 cm or more, but the height from the ground to the upper edge of the light-emitting surface must be less than 150 cm. When it is necessary because of the construction of the tractor or the motorised equipment, or the equipment this is being used with, the height from the ground to the upper edge of the light-emitting surface may, however, be increased to a maximum 250 cm. Measurements to be taken when the tractor or the motorised equipment is unladen.
- 3.4** Front and rear lamps must be so positioned on each side that the outer edge of the light-emitting surface is less than 40 cm from the outer edge of the tractor or motorised equipment.
- 3.5** Direction indicator lamps must be connected to a tell tale lamp and/or sound signal which must be visible and/or audible from the driver's seat, and operate simultaneously with the direction indicator lamps and show if these function correctly.
- 3.6** The flash frequency for direction indicator lamps must be 90 ± 30 , flashes per minute.
- 3.7** The operating device for the direction indicator lamps must be such that the lamps on the right-hand side operate when it is being moved clockwise or towards the right, and the lamps on the left-hand side operate when it is moved anti-clockwise or towards the left.

REAR POSITION (SIDE) LAMPS

- 4.** Tractors and motorised equipment must have at least two rear position (side) lamps emitting red light.
- 4.1** The lamps must meet the requirements in Section 28-4, Number 7, except Number 7.3.
- 4.2** The lamps must be positioned so that the height from the ground to the lower edge of the light-emitting surface is at least 35 cm, but the height from the ground to the upper edge of the light-emitting surface must be less than 190 cm. When it is necessary, due to the construction of the tractor or the motorised equipment, or the equipment being used with this, the height however from the ground to the upper edge of the light-emitting surface may be increased to maximum 250 cm. Measurements to be taken when the tractor or the motorised equipment is unladen.

REFLEX REFLECTORS

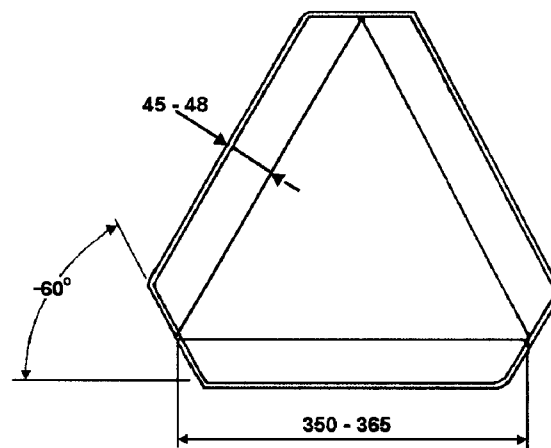
- 5.** Tractors and motorised equipment must have at least two rear red reflex reflectors.
- 5.1** The reflex reflectors must meet the requirements in Section 28-4, Number 9, except Number 9.3.
- 5.2** The reflex reflectors must be positioned so that the height from the ground to the lower edge of the reflecting surface is at least 35 cm, but the height from the ground to the upper edge of the reflecting surface is less than 90 cm. When it is necessary because of the construction of the tractor or the motorised equipment, or the equipment with which it is being used, the height from the ground to the upper edge of the reflecting surface may however be increased to maximum 120 cm. Measurements to be taken with the tractor or the motorised equipment unladen.

REGISTRATION PLATE LAMPS

- 6.** Tractors and motorised equipment must have rear registration plate lamps emitting white light when the tractor or the motorised equipment is registered.
- 6.1** The lamp(s) must meet the requirements given in Section 28-13, Number 8.

WARNING SIGN

7. Tractors and motorised equipment must have a warning sign at the rear warning that it is a slow moving vehicle.
- 7.1 The sign must have the form of a equilateral triangle with broken corners and with a red fluorescent centre part. The sign must have measurements as given in Figure 1 (all measurements in mm).
- 7.2 The sign must either be approved by Trafiksakerhetsverket in Sweden ("T" Lf-mark) or meet the light requirements for reflecting and fluorescent material in ECE Regulation No. 27.
- 7.3 The sign must be positioned at the rear of the vehicle and so that one of the points of the triangle points upwards. The sign must be positioned vertically and at right angles to the vehicles longitudinal direction. The sign must be positioned so that the height is at least 60 cm and maximum 180 cm above the road, measured from the lower edge of the sign.

**Figure 1**

SECTION 28-15

LIGHTING EQUIPMENT FOR TRACTORS AND MOTORISED EQUIPMENT WITH A DESIGNED SPEED NOT OVER 10 KM/H

DIPPED BEAM LAMPS

1. Tractors and motorised equipment must have one or two front dipped-beam lamps emitting white or yellow light.
- 1.2 The lamp(s) must have sufficient side dissipation to light up the road at least 20 m ahead.
- 1.3 The light from each of the lamps must be such that the intensity measured 25 m in front of the lamp is at least:
 - 1.3.1 1,5 lux or more at any point immediately in front of the lamp and between 37,5 and 75 cm below the horizontal plane through the centre of the lamp.
 - 1.3.2 Less than 0,7 lux at any point above the horizontal plane through the centre of the lamp. On the right-hand side of the centre of the lamp, however, the plane for the 0,7 lux limit may incline 15° upwards to the right (seen in the direction of the light).
- 1.4 The lamps must be so positioned that the height from the ground to the lower edge of the light-emitting surface is at least 50 cm, but the height from the ground to the upper edge of the light-emitting surface must be less than 120 cm. Measurements to be taken when the tractor or the motorised equipment is unladen.

If the tractor or the motorised equipment is fitted with special equipment i.e. snow plough obstructing the obligatory dipped-beam lamp(s) additional dipped-beam lamp(s) may be fitted at the necessary height.
- 1.5 Lamp(s) which are so positioned on the tractor or the motorised equipment so that its (their) upper edge is more than 120 cm above the ground (see Number 1.4) must be so adjusted that the light 25 m in front of the lamp(s) is less than 0,7 lux at any given point positioned 110 cm or more above the ground.
- 1.6 Lamp(s) must be so connected that it (they) cannot be illuminated without the front position (side) lamps and the rear position (side) lamps being switched on at the same time.
- 1.7 If the tractor or the motorised equipment has a main-beam, the dipped switch must be constructed and positioned so that it can easily and safely be operated.

FRONT POSITION (SIDE) LAMPS

2. Tractors and motorised equipment shall have two front position (side) lamps emitting white light.

The lamps must fulfill the requirements given in Section 28-14 Number 2.

REFLEX REFLECTORS - FRONT

3. Tractors and motorised equipment must have at least two front white reflex reflectors when the tractor or the motorised equipment has only one lamp emitting light
- 3.1 The reflectors must meet the requirements in Section 28-5, Number 5.1.
- 3.2 The illumination from each of the reflex reflectors must be visible within a vertical angle at least 15° below the horizontal plane through the centre of the reflex reflector, and within a horizontal angle at least 30° inwards to at least 30° outwards measured from the vertical plane through the centre of the reflex reflector which is parallel to the longitudinal axis of the tractor or the motorised equipment.
- 3.3 The reflex reflectors must be so positioned that the height from the ground to the lower edge of the reflecting surface is 50 cm or more, but the height from the ground to the upper edge of the reflecting surface must be less than 90 cm. When it is necessary, because of the construction of the tractor or the motorised equipment, or the equipment with which it is being used, the height from the ground to the upper edge of the reflecting surface may however be increased to a maximum of 120 cm. Measurements to be taken with the tractor or the motorised equipment is unladen.
- 3.4 At least one reflex reflector must be positioned on each side so that the outer edge of the reflecting surface is less than 40 cm from the outer edge of the tractor or the motorised equipment.
- 3.5 The reflex reflectors must be fitted so that the light-reflecting surface is vertical and perpendicular to the longitudinal axis of the tractor or the motorised equipment. When it is necessary due to the construction of the tractor or the motorised equipment, a deviation is however permitted of $\pm 5^\circ$ in a horizontal and a vertical direction.
- 3.6 The reflex reflectors must have a basic and regular shape. They must not be triangular.

REAR POSITION (SIDE) LAMPS

4. Tractors and motorised equipment must have at least two rear position (side) lamps emitting red light.

The lamps must fulfill the requirements given in Section 28-14 Number 4.

REAR REFLEX REFLECTORS

5. Tractors and motorised equipment must have at least two rear red reflex reflectors.
- The reflectors must meet the requirements given in Section 28-4, Number 9, except Number 9.3. Section 28-14, Number 5.2 must also be met.

WARNING SIGN

6. Tractors and motorised equipment must have a warning sign at the rear warning that it is a slow moving vehicle.
- 6.1 The warning sign must meet the requirements in Section 28-14, Number 7.

SECTION 28-16

OPTIONAL LIGHTING EQUIPMENT FOR TRACTORS AND MOTORISED EQUIPMENT

1. Tractors and motorised equipment may have hazard warning lamps, auxiliary main-beam, curve/fog lamp, lamp(s) in front for warning that the tractor or the motorised equipment is towing a trailer or trailer equipment, main-beam flasher, marker lamps, front white reflex reflectors, side yellow reflex reflectors faintly lit advertising signs etc., working lamps, reversing lamps, rear fog lamps; interior lamp(s) to illuminate instruments or passenger/ goods compartments and warning lamps emitting flashing blue light, in a forward direction.

The lamps and the reflex reflectors must fulfill the requirements given for each of them in Section 28-4 Number 6 and Section 28-5.

2. In addition tractors and motorised equipment designed for a speed of not over 30 km/h may have a main-beam and stop lamp, and tractors and motorised equipment which are designed for a speed of not over 10 km/h may have direction indicator lamps.

The main beam must at least meet the requirements to "M"-marking (ECE Regulation No. 1). Other lamps must meet the requirements given above in Section 28-13, Number 6 and Section 28-14, Number 3.

SECTION 28-17

LIGHTING EQUIPMENT WHICH A TRAILER WITH A DESIGNED SPEED OF OVER 30 KM/H MUST HAVE (THE REGULATIONS IN THESE SECTIONS DO NOT APPLY TO VEHICLES COVERED BY SECTION 28-1)

FRONT END-OUTLINE MARKER LAMPS

1. Trailers must have at least two front end-outline marker lamps emitting white light when the trailer is wider than 160 cm or wider than the towing vehicle.
 - 1.1 The lamps must meet the requirements given in Section 28-4, Number 4.1.
 - 1.2 The light from each of the lamps must be visible within a vertical angle at least 15° above and at least 15° below the horizontal plane through the centre of the lamp, and within a horizontal angle at least 10° inwards and at least 80° outwards measured from the vertical through the centre of the lamp which is parallel to the longitudinal axis of the trailer.
 - 1.3 Lamps must be so positioned that the height from the ground to the lower edge of the light-emitting surface is at least 40 cm, but the height from the ground to the upper edge of the light-emitting surface must be less than 190 cm. Measurements to be taken with the trailer unladen.
 - 1.4 Lamps must be so placed on each side so that the outer edge of the light emitting surface is less than 15 cm from the outer edge of the trailer.
 - 1.5 Lamps must be so connected that they are always illuminated when front position (side) lamps, rear position (side) lamps and registration plate lamps on the towing vehicle are switched on.

REFLEX REFLECTORS - FRONT

- 2.** Trailer must have at least two front white reflex reflectors.
- 2.1** The reflectors must meet the requirements in Section 28-5, Number 5.1.
- 2.2** The illumination from each of the reflex reflectors must be visible within a vertical angle at least 15° below the horizontal plane through the centre of the reflex reflector and within a horizontal angle at least 30° outwards from the vertical plane through the centre of the reflex reflector which is parallel to the longitudinal axis of the trailer.
- 2.3** The reflex reflector must be positioned so that the height from the ground to the lower edge of the reflecting surface is at least 35 cm but the height from the ground to the upper edge of the reflecting surface must be less than 90 cm. Measurements to be taken with the trailer unladen.
- 2.4** At least one reflex reflector must be so positioned on each side that the outer edge of the reflecting surface is less than 40 cm from the outer edge of the trailer.
- 2.5** The reflex reflectors must be positioned in such a way that the light reflecting surface is vertical and perpendicular to the longitudinal axis of the trailer. If the design of the trailer makes this necessary, the deviation may, however, be $\pm 5^\circ$ in horizontal and vertical directions.
- 2.6** The reflex reflectors must have a basic and regular shape. They must not be triangular.

DIRECTION INDICATOR LAMPS

- 3.** Trailers must have at least two rear direction indicator lamps emitting orange, flashing light.
- 3.1** The lamps must meet the requirements in Section 28-4, Number 5.1.
- 3.2** The light from each of the lamps must be visible within a vertical angle at least 15° above and at least 15° below the horizontal plane through the centre of the lamp, and within a horizontal angle at least 45° inwards and at least 80° outwards, measured from the vertical plane through the centre of the lamp which is parallel to the longitudinal axis of the trailer.
- 3.3** The lamps must be positioned so that the height from the ground to the lower edge of the light-emitting surface is at least 35 cm, but the height from the ground to the upper edge of the light-emitting surface must be less than 150 cm. When the design of the trailer makes this necessary, the height from the ground to the upper edge of the light-emitting surface may, however, be increased to maximum 190 cm. Measurements to be taken when the trailer is unladen.
- 3.4** The lamps must be positioned on either side so that the outer edge of the light-emitting surface is less than 40 cm from the outer edge of the trailer.
- 3.5** The flash frequency for the direction indicator lamps must be 90 ± 30 flashes per minute.
- 3.6** The lamps must be connected in such a way that they operate simultaneously with the direction indicator lamps on the towing vehicle.

HAZARD WARNING LAMPS

- 4. Trailers must have at least two rear hazard warning lamps emitting orange light.
- 4.1 The lamps must meet the requirements laid down in respect of direction indicator lamps under Number 3.
- 4.2 When the hazard warning lamps operate, all lamps must flash simultaneously.
- 4.3 If the hazard warning lamps can operate when the trailer is moving, they must be connected to the tell tale lamp and/or sound signal for the hazard warning lamps in the towing motor vehicle.

REAR POSITION (SIDE) LAMPS

- 5. Trailers must have at least two rear position side) lamps emitting red light.
- 5.1 The lamps must meet requirements in Section 28-4, Number 7, except Number 7.6.
- 5.2 The light from each of the lamps must be visible within a vertical angle at least 15° above and at least 15° below the horizontal plane through the centre of the lamp, and within a horizontal angle at least 45° inwards and at least 80° outwards. measured from the vertical plane through the centre of the lamp which is parallel to the longitudinal axis of the trailer.
- 5.3 The lamps must be connected so they are always illuminated when the front position (side) lamps, rear position (side) lamp and registration plate lamps on the towing vehicle are switched on.

STOP LAMPS

- 6. Trailers must have at least two stop lamps at the rear emitting red light which are illuminated immediately the service brake of the towing vehicle is operated.
- 6.1 The lamps must meet the requirements in Section 28-4, Number 8.

REFLEX REFLECTORS - REAR

- 7. Trailers must have at least two rear triangular red reflex reflectors.
- 7.1 The reflex reflectors must meet at least one of the following requirements:
 - a) They must be E-marked and of Class III according to ECE Regulation No. 3, 02 Series, Supplement 1.
 - b) They must be e-marked and of Class III according to Council Directive 76/757/EEC, possible as amended by Council Directive 87/354/EEC.
 - c) They must be approved and marked according to some other standard with equivalent requirements as a) or b) above.
- 7.2 The illumination from each of the reflex reflectors must be visible within a vertical angle at least 15° above and at least 15° below the horizontal plane through the centre of the reflex reflector, and within a horizontal angle at least 30° inwards and at least 30° outwards measured from the vertical plane through the centre of the reflex reflector which is parallel to the longitudinal axis of the trailer.

- 7.3** The reflex reflectors must be so positioned that the height from the ground to the lower edge of the reflecting area is at least 40 cm but the height from the ground to the upper edge of the reflecting area must be less than 90 cm. Measurements to be taken when the trailer is unladen.
- 7.4** At least one reflex reflector to be positioned on each side of the trailer so that the outer edge of the reflecting surface is less than 40 cm from the outer edge of the trailer.
- 7.5** The reflex reflectors must be fitted with the apex in the upward direction and in such way that one of the sides is horizontal. The reflecting surface must be vertical and perpendicular to the longitudinal axis of the trailer. If, however, the design of the trailer makes this necessary, a deviation of $\pm 5^\circ$ is allowed, horizontally and well as vertically.

REAR REGISTRATION PLATE LAMPS

- 8.** Trailers must have rear registration plate lamps emitting white light when the trailer is registered.
- 8.1** The lamp must be positioned so that the light from a point in the light-emitting surface of the lamp is farthest from the registration plate, forms an angle at any point of 8° or more with the registration plate.
- If several lamps are used to illuminate the registration plate, each lamp must be positioned so that this requirement is fulfilled for any point on that part of the registration plate which the specified lamp is to illuminate.
- 8.2** The intensity of the light must be such that all letters and numbers on the registration plate are easy to read in darkness at a distance of at least 20 m. The lamp(s) must not cast a light in a rearward direction and reflected light from the registration plate, bumper etc., must not annoy any drivers behind. Lamps which are E-marked may be approved.
- 8.3** The lamp(s) must be so connected that it (they) is (are) always illuminated when front position (side) lamps, rear position (side) lamps and registration plate lamps on the towing vehicle are switched on.

SECTION 28-18

LIGHTING EQUIPMENT FOR TRAILERS WITH A DESIGNED SPEED OF NOT OVER 30 KM/H

1. Trailers must have at least two white front reflex reflectors.
The reflex reflectors must meet the requirements given under Section 28-17 Number 2.
2. Trailers must have at least two rear direction indicator lamps emitting orange, flashing light.
The lamps must meet the requirements mentioned under Section 28-17 Number 3.
3. Trailers must have at least two rear position (side) lamps emitting red light.
The lamps must meet the requirements mentioned under Section 28-17 Number 5.
4. Trailers must have at least two rear triangular red reflex reflectors.
The reflex reflectors must meet the requirements mentioned under Section 28-17 Number 7.

WARNING SIGN

5. All trailers must have a warning sign at the rear warning that it is a slow moving vehicle.
- 5.1 The warning sign must meet the requirements in Section 28-14, Number 7.

SECTION 28-19

OBLIGATORY LIGHTING EQUIPMENT FOR TRAILER EQUIPMENT

1. Trailer equipment must have at least two front white reflex reflectors.
The reflex reflectors must meet the requirements mentioned under Section 28-17 Number 2.
2. Trailer equipment must have at least two rear direction indicator lamps emitting orange flashing light.
The lamps must meet the requirements mentioned under Section 28-17 Number 3.
3. Trailer equipment must have at least two rear position (side) lamps emitting red light.
The lamps must meet the requirements mentioned under Section 28-17 Number 5.
4. At least two stop lamps at the rear emitting red light and which are illuminated immediately the service brake of the towing vehicle is operated, when the trailer equipment is being towed by a vehicle designed to drive at a speed of over 30 km/h.
The lamps must meet the requirements mentioned under Section 28-4 Number 8.
5. Trailer equipment must have at least two rear red triangular reflectors.
The reflex reflectors must meet the requirements as mentioned under Section 28-17 Number 7.

WARNING SIGN

6. All trailers must have a warning sign at the rear warning that it is a slow moving vehicle.
- 6.1 The warning sign must meet the requirements in Section 28-14, Number 7.
7. Trailer equipment with a width not over 100 cm is not bound to have lamps as mentioned under Numbers 1-6, provided it does not obstruct the lamps which are required for the towing vehicle.
Trailer equipment with a width of over 80 cm must, however, have at least two front white reflex reflectors and at least two rear triangular red reflex reflectors. Trailer equipment with a width not over 80 cm must have, in front and at the rear, at least one reflex reflector as mentioned. Number 1, second part, and Number 5, second part, apply in the same way.

SECTION 28-20

**LIGHTING EQUIPMENT WHICH A TRAILER AND TRAILING EQUIPMENT MAY HAVE
(THE REGULATIONS IN THIS SECTION DO NOT APPLY TO VEHICLES
COVERED BY SECTION 28-1)**

1. Trailer and trailer equipment may have direction indicator lamps in front and on the sides, marker lamps, yellow reflex reflectors on the sides, faintly illuminated or lighting advertising signs etc., working lamps, reversing lamps, rear fog lamps - and interior lamp(s) to illuminate instruments and passenger/goods compartment. In addition, trailers in Categories O₃ and O₄, and trailing equipment, may have reflecting devices on the side or at the rear, indicating the size of the vehicle. A reflecting plate at the rear must have been approved according to ECE Regulation No. 70.00. Reflectors like stripes or contour markings on the side and/or at the rear, must have been approved according to ECE Regulation No. 104.00. Reflecting graphics are permitted within the contour marking according to the Regulations.
2. In addition, trailer designed for a speed not over 30 km/h and trailer equipment may have hazard warning lamps, trailer and trailer equipment designed for a speed not over 30 km/h may have stop lamps, and a trailer designed for a speed not over 30 km/h may have registration plate lamps.

The lamps mentioned must meet the requirements laid down for each of them under Section 28-17 Numbers 4, 6 and 8.

ENCLOSURE 1 TO CHAPTER 28
SETTING/ADJUSTMENT OF VEHICLE LAMPS

1. ADJUSTING THE LAMPS BY MEANS OF ADJUSTMENT EQUIPMENT.

1.1 Checking Area.

The vertical adjustment of the lamps must only be checked/adjusted on an area of the ground where the variations in the ground surface over the base length of the equipment and the vehicle is not greater than $\pm 0,1^\circ$. For equipment with a base length of 60 cm, this means that the height variation between the supporting points must not exceed $\pm 1,2$ mm. Since the base length of the vehicle, the variation in the height between the supporting points may be greater. However, the difference should not exceed $\pm 3,0$ mm.

Provided the requirements for the ground surface are within the above limits, the ground does not have to be absolutely horizontal.

The checking area must be free from sand or other material which may result in height variation of the supporting points.

1.2 MEASURING EQUIPMENT

The lens of the equipment must be centred in relation to the lamp.

The screen of the equipment must be such that it can give a clear and sharp image of light-dark borders. The horizontal parts (left hand) of the light-dark border must be set so that it aligns to the line on the screen which correspond to a declined angle of the light of 1:100, (i.e., 25 cm below the horizontal plane through the centre of the lamp measured at a distance of 25 m from the lamp). If the equipment originally does not have a line on the screen corresponding to a slope of 1:100, this position must be determined and marked.

The lamp must furthermore be set so that part of the light-dark border angled up to 15° , is adjusted to align with the sloping line on the right-hand side of the screen. For a correctly adjusted lamp the point in the light-dark border line must fall on a line through the centre of the screen.

For an unladen truck the light-dark border must, when adjusted, correspond to the line on the screen which corresponds to a declined angle of 1:50 (i.e., corresponding to 50 cm below the horizontal plane through the centre of the lamp).

The light-dark border must not be adjusted according to the lux meter on the equipment because this is not accurate enough.

When the dipped beam is correctly adjusted, the main beam must be checked. The light cone for the main beam must lie in the centre of the apparatus given on the screen.

The light intensity should be checked by means of a lux-meter, this can be done on the main-beam but with the engine running. Check the voltage at the bulb in case of a voltage drop. If the main beam does not meet the requirements when this check is carried out, there is a fault in the lamp, bulb, wires or similar.

Further adjustment in order to get the main beam correct must not be done, because if this is done, the dipped beam will be disturbed.

2. CHECKING/ADJUSTMENT AGAINST A BOARD, WALL OR SIMILAR.

2.1 Checking Area

The dipped beam may be checked/adjusted by means of a board, wall or similar perpendicular to the plane on which the vehicle is standing. However, this requires more space than when using the equipment.

The level of the ground and the other conditions for adjusting the lamps are the same as mentioned in Number 1.1. The distance from the lamp to the board, wall or similar should be at least 5 m in order to achieve a satisfactory light distribution image.

The horizontal part of the light-dark border horizontal line (which refers to the centre of the lamp) as the distance from the lamp to the board, wall or similar in metre, i.e., an incline of 1:100. This means that if the distance from the lamp to the board, wall or similar is 5 m, the light-dark border must be 5 cm below the horizontal line. If the distance from the lamp to the board, wall or similar is 10 m, the light-dark border must be 10 cm below the horizontal line.

3. LOAD ETC.

In order to get the lamp adjustment as correct as possible, the most favourable possible load distribution on the vehicle should be chosen when checking/adjusting the dipped beam and the curve/fog lamp. The lamps must not be angled too much upwards, because the light will then dazzle. If the lamps are angled too much downwards, the driver's visibility is reduced.

Studies carried out show that the result is considerably better with one person in the driving seat, than with the vehicle unladen. It therefore applies that in general the setting of the lamps should be checked with one person sitting in the driver's seat.

The vehicle should otherwise have the equipment it normally has, for example tools, luggage, fuel, spare wheel, warning triangle etc.

Vehicles with automatic compensation for load variations must be checked/adjusted according to the instructions given by the vehicle manufacturer.

If the vehicle has hydraulic suspension or air suspension, the checking/adjustment must only be carried out with the engine running. Vehicles with a bogie axle which can be lifted, must be checked with the bogie axle in lower position and without load.

When checking adjusting the lamp it must be ensured that the vehicle is fitted with the stipulated tyres and these must have the correct air pressure.

All vehicles must be rolled slowly into the measuring place so that the suspension is not changed because of rapid braking etc.

4. THE CONDITION OF THE LAMPS.

The lamps of the vehicle should be checked visually. The reflectors must be bright and without any peeling. The bulbs must be of the correct type (such as correct wattage and socket/holder). The lens must be whole (no cracks) and clean. Dirty lenses will give a faulty light image. Any E-markings should be checked.

COUNTRY :NORWAY

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ENCLOSURE 2 TO CHAPTER 28

APPROVED DRIVING LAMPS

By virtue of Section 28-2 Number 11, Vegdirektoratet has approved the following driving lamps

Name, type	Approval number	Manufacturer/Importer
Hella	VD-200	Hellanor A/S
Svema	VD-201	Motorhuset A/S
Talmu	VD-202	Loyds Industri A/S
Auteroche	VD-203	Otta Vogt A/S
Optilux	VD-204	SAW
SAW	VD-205	SAW